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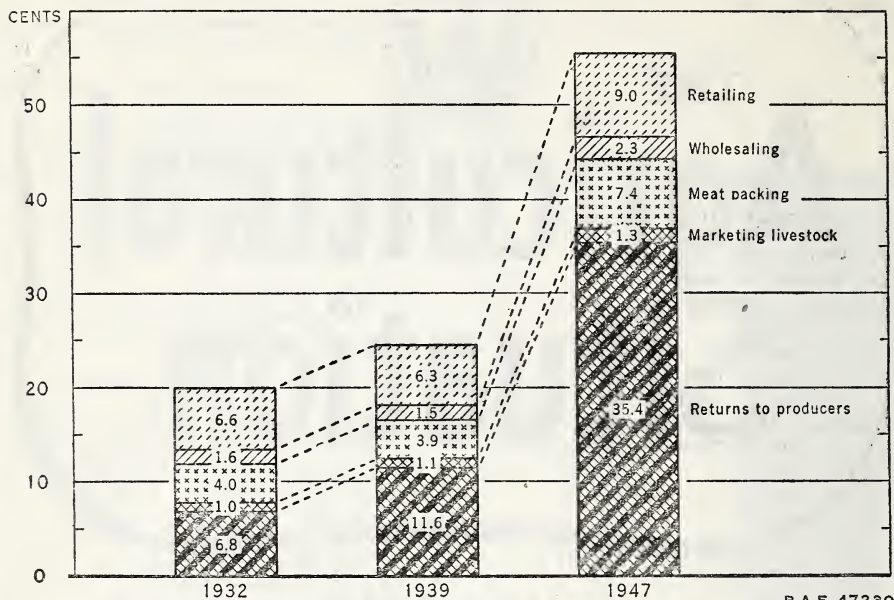
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DISTRIBUTION OF THE AVERAGE RETAIL PRICE PER POUND OF MEAT AT LOW, MEDIUM, AND HIGH PRICES, 1932, 1939 AND 1947



Farm Share of Meat Dollar Tied Closely to Price Level

CONSUMERS paid an average of 55.4 cents a pound for the meat they bought in 1947. Of this, the meat animal producer received 35.4 cents while the other 20 cents went to railroads, packers, wholesalers, retailers, and others taking part in getting the live animals from the farm to the consumer's table in the form of meat.

As the chart above shows, the picture was much different in 1932 and 1939. The year World War II started in Europe, retail meat prices averaged less than 25 cents a pound. The farmer got about 11½ cents while the farm-to-retail marketing margin accounted for 13 cents. In 1932 when meat prices averaged 20 cents a pound, marketing charges also accounted for 13 cents but the meat animal producer's share was down to less than 7 cents.

These figures are from a recent BAE study of the farm-to-retail margins for livestock and meat in 3 years—1932 when the general price level was very

low; 1939 when the price level was about medium; and 1947 when prices were high and climbing rapidly toward the postwar, all-time peak. The project was financed by funds appropriated under the Research and Marketing Act.

The share of the consumer's meat dollar received by the farmer is tied closely to the general price level, the study shows. When prices are low, the share for processing and distributing is usually larger, compared to the farmer's share, than when prices are high.

In 1932, for example, marketing margins took 66 cents of the consumer's meat dollar, leaving 34 cents for the farmer. In 1939, a medium price level year, marketing charges accounted for 52½ cents. But in 1947, the high level year, marketing charges accounted for only 36 cents while 64 cents went to meat animal producers.

The increase in the farmer's share of the meat dollar from 1932 to 1939 and from 1939 to 1947 illustrates the

tendency of prices for farm food products to go up and down more than the costs in the marketing process. The marketing margin was about the same in 1939 as in 1932 while average prices received by farmers for meat animals were up about 70 percent. In 1947, marketing charges per pound of meat were about 54 percent above 1939 while farmer's prices for meat animals were up around 200 percent.

Marketing Functions

Farm-to-retail marketing margins are broken down in two ways: by the functions performed in moving farm food products to consumers in the form of food; and by the various costs entering into the marketing process.

Charges for each of the marketing functions increased from 1939 to 1947. Meat packing showed the greatest gain and as a result accounted for 37 percent of total marketing charges in 1947 compared with 30 percent in 1939 (see accompanying table). On the other hand, charges for retailing and for marketing livestock accounted for smaller shares of the total margin than in 1939. Wholesale distribution charges made up about the same proportion in both years.

From the standpoint of costs, wages and salaries are the biggest single item of expense in marketing livestock and meat. In 1947 labor costs, not counting labor used in transportation, made up almost 60 percent of the marketing

margin compared with 53 percent in 1939.

Labor costs are, of course, affected by both wage rates and the productivity of labor. From 1939 to 1947, the former apparently rose more than the productivity of labor. In the meat-packing industry, for example, pay rolls were more than two and one-half times as large in 1947 as in 1939 while the weight of the meat and lard produced was up about one-third. Pay rolls in retail stores doubled between the 2 years.

Because of the importance of labor costs in marketing livestock and meat, trends in wage rates and the productivity of workers will have considerable effect on marketing margins in the future. Whether prices advance or decline over a period of time, changes in wage rates usually lag behind.

Nine Percent for Transportation

Transportation is another important marketing cost which changes more slowly than prices of livestock and meat, whether they are moving up or down. In 1947, transportation costs accounted for about 9 percent of total marketing costs compared with 11 percent in 1939.

Other costs of marketing such as rent, heat, electricity and other utilities, containers and profits, made up about 30 percent of the marketing margin in 1947 compared with 36 percent 8 years earlier.

Kathryn Parr

Bureau of Agricultural Economics

Distribution of Consumer's Meat Dollar and the Marketing Margin by Marketing Functions

Function	Consumer's meat dollar			Marketing margin		
	1932	1939	1947	1932	1939	1947
	Per- cent	Per- cent	Per- cent	Per- cent	Per- cent	Per- cent
Retail distribution.....	33.0	25.7	16.2	50.0	49.0	44.9
Wholesale distribution.....	8.0	6.2	4.2	12.1	11.8	11.6
Meat packing.....	20.0	15.9	13.4	30.3	30.3	37.1
Marketing of livestock.....	5.0	4.7	2.3	7.6	8.9	6.4
Total marketing margin.....	66.0	52.5	36.1	100.0	100.0	100.0
Returns to producers.....	34.0	47.5	63.9	-----	-----	-----
Total.....	100.0	100.0	100.0	-----	-----	-----

Ways to

Keep the Farm in the Family

AGE 59 is rather late in life to start paying off the major share of a farm, particularly when you have operated it all of your life. But that is exactly the situation that faced a Michigan farmer whose family had not taken proper measures for transferring the farm from father to son.

It's the kind of a situation that you can find repeated, with many variations, all over the country. The Michigan farmer had worked on the home place all of his life without a definite agreement as to his future interest in the farm. At first, he and his father operated the farm on a partnership basis. After his father died, he rented it from his mother. She died at the age of 82 without having made a will and he found that he shared the farm with two other heirs who lived in the city. This left him with the choice of giving up the home farm or attempting to buy out the other heirs.

Study Michigan Transfers

Situations of this sort can be prevented by making at the right time suitable arrangements for transferring the farm from father to son or to son-in-law. To find out the best methods of making such transfers, a study has been made by the Michigan Agricultural Experiment Station and the Bureau of Agricultural Economics. Two hundred seventy Michigan farmers provided the basic information.

It is natural to want to keep the farm in the family. But there are some important things to think about before making up your mind. First of all, it is essential that you work out a fair and effective transfer that the whole family agrees upon. It should do *all* of the following: Provide reasonable security for the parents and for the farm operating son and his family. Provide equitable treatment for the other heirs. Make it possible to maintain the home farm as a going concern.

One of the main considerations in an agreement is the farm itself. It needs to be large enough and productive enough to provide an economic size of business. If it isn't it might be better to sell the farm to someone outside the family. In some cases, of course, the farm can be increased in size; or the nature of the business can be changed to make it more productive. The decision on whether the farm is of suitable size or productivity should be left largely to the son who will operate it.

Son May Not Want Farm

Another thing to think about is the fact that not all farm sons and daughters want to farm. Some of them that do may find better farming opportunities elsewhere. In such cases it probably would be better to sell the place to someone who really wants it. In order to keep the home farm a going concern and in the hands of someone who easily fits into the life of the community, some farmers have worked out transfer agreements with neighborhood boys.

A third problem you may face arises when the son or son-in-law reaches the age of acquiring a farm before his parents are ready to retire. In such cases, it may be difficult to make a transfer that won't work to the disadvantage of either the son or the parents. This problem is not as difficult, of course, if the place is big enough to support two families.

Family Agreement Essential

These are samples of the difficulties that can arise when you think of keeping the farm in the family. Since they involve the welfare of the parents, children and the farm, it is essential that the whole family participate in the agreement. Failure to work out a fair and effective transfer can result in serious economic loss to all concerned. Furthermore, it can involve the family

in disagreements and legal squabbles that can cause more heartaches than do dollar and cent losses.

In the Michigan study, several types of transfers were studied. The two types found most satisfactory for most family situations were transfer by sale or contract and transfer by will.

Sales agreements and contracts.—Transfers of this kind have much to recommend them, particularly when the parents are retiring. They are clean-cut business transactions in which all parties know exactly where they stand. The son knows he will have the farm if he keeps up the payments. The payments help provide for the needs of the parents during their old age and retirement. Other children will inherit their share of the parents' personal property including unused money received from the sale of the farm. Of course, it is possible that the parents may live long enough after selling the farm to a son that the money from the sale will be used up and nothing will be left for any of the heirs.

Permits Earlier Transfer

Sales agreements and contracts also permit the son to own the farm at a much earlier age than other types of transfers. The study showed that sons average 42 to 45 years of age when they inherit. Most of them, however, are ready to start farming at 25 years or younger.

Once a son definitely has title to a farm, he can begin his own long-time farming program. He will feel more confident about making improvements than if he is not sure when or if he will own the farm.

There are two main types of sales agreements and contracts:

1. Outright sale with a cash down payment and a mortgage.
2. Land contracts in which the parents keep title to the farm and receive periodic cash payments. These contracts provide that title be transferred when a certain percentage of the principal has been paid. Some provide that the unpaid part of the contract be canceled after the death of the parents. They also may specify that a home on the farm be provided the parents, or

that certain expenses of the parents such as doctor and hospital bills are to be paid by the son.

Other kinds of contracts may be used. One of them is the annuity plan in which the son agrees to make annual or monthly payments based on the value of the farm and the number of years his parents are expected to live. If the parents live longer than expected the son may pay more than the value of the farm. If they live less than the expected time, the reverse will be the case.

The Price

The price at which a farm is to be sold or upon which contract payments are to be based should be carefully determined. When land values are unusually high a sale at the market value would be to the disadvantage of the son.

Transfer by will.—Farm families may not find it advisable to sell or otherwise transfer the farm to the son or son-in-law at a particular time. In such cases, a conditional will may be made. Such a will may provide that on the death of the parents, the son receiving the farm shall settle with the other heirs. The will may specify the amount of the settlement, or it may provide that the son pay a certain percentage of the appraised value at the time he inherits the farm. The latter plan would avoid difficulties due to changes in the value of the land or in the condition of the estate.

A Good Temporary Measure

Such a will provides a satisfactory transfer arrangement in case the father dies before reaching the time of retirement. If the father lives, the will could be replaced later by outright sale or land contract.

Transferring the land by will is often not satisfactory to the farm-operating son. His future equity in the farm is not certain since he may not know the exact contents of the will and the will usually can be changed at any time by the maker. In addition, he may not receive the farm early enough in life.

In families where it is decided to transfer the land by will, it is good practice for parents and children to

reach an understanding that the farm will be left to the son who will operate it.

Wills made by farmers often are improperly prepared. This often leads to legal difficulties that will delay transfers. If you plan to make a will, it is a good idea to talk with a lawyer.

In addition to the above methods of transferring the farm from father to son, the following methods often are used. In general, these are not recommended as good ways of making the transfer.

Life estates.—In this type of transfer, the son is given title to the farm with the reservation of a life estate or "life lease" for one or both parents. The main purpose of such a transfer usually is to give the farm to the son and at the same time provide an income for the widow. This is an awkward arrangement which frequently leads to dissatisfaction and to neglect of the farm. It is not recommended as a good way of transferring the farm.

Avoid Joint Ownership

Joint deeds.—The father sometimes gives a son a joint deed to the farm. In case of the death of either, the farm goes to the survivor. Both parties have equal rights in the property. Neither may sell, rent, or mortgage it without the consent of the other. If father and son agree on everything, the joint deed may be satisfactory. But even the best of families sometimes disagree. Disputes are more likely when property is jointly owned.

Laws of descent and distribution.—When no arrangement to transfer the farm is made while the parents are

living, the property is divided among the heirs according to State laws. If one son is to acquire ownership, he must arrange to buy the farm from the other heirs. This can lead to all sorts of difficulties. The laws of descent are seldom a good way of transferring the farm except when the farm operating son is the only heir.

Few Want a Gift

Gifts.—Most young farmers are not looking for a gift of the home farm. What most of them want is the opportunity to start to become a farm owner at a relatively early age. They are willing to pay for the farm if given the opportunity to do so during their most productive years. Many outright gifts of farms by father to son have not turned out well. It should be noted that transferring the farm by life estate or joint deed are forms of gifts.

Verbal promises.—It is a good idea for a father and son to start the process of transferring the farm with a verbal understanding. But it makes a poor finish unless followed by a written agreement in legal form. To avoid regrets, it is a good plan to get your agreements down in black and white.

No One "Best Way"

The Michigan study indicates that there is no one best way of transferring the farm from father to son. A method suitable for one family may not fit another. The best arrangement for your family depends on the following: (1) The ages of the parents; (2) whether the parents are ready to retire; (3) the size of the parents' estate; (4) the income needed by the parents or surviving parent; (5) the size of the farm; (6) the age and family status of the farm-operating son; (7) the number of other heirs. Each farm family should consider its situation carefully before deciding on a method.

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More Detail in Bulletin

A more detailed discussion of the methods of transferring the farm from father to son can be found in special bulletin No. 357, "How to Keep Your Farm in the Family," by R. L. Berry, Sidney Henderson and E. B. Hill. This bulletin is published by the Michigan Agricultural Experiment Station, East Lansing, Mich.

Date Palms Like Desert Sun

But Need Wet Feet to Thrive

IT TAKES a rare combination of sunshine and water to produce dates. The date palm must stand with its feet in moisture and its head in the searing air of the desert. Rain or even high humidity during ripening causes the fruit to ferment and usually ruins the crop.

The environment required by the date palm limits it to a few arid spots in the world. Abroad, they are grown in the desert oases of Asia and Africa. In this country, date palms are found only in southern California and southern Arizona with the bulk of the output coming from around Indio, Calif. There the temperature averages $92\frac{1}{2}^{\circ}$ for July and 54.2° for January. Rainfall averages only $3\frac{1}{4}$ inches per year. Water needed for date gardens is pumped from local wells or is brought by canal from the Colorado River.

Dates have been grown in California for more than 200 years but the harvest was less than 60 tons per year before 1920. Production has increased steadily since then and now averages more than 10,000 tons annually. The largest crop on record was 17,000 tons in 1947. Some fine date gardens are located around Phoenix, Ariz., but the State's production is only about 150 tons a year.

Deglet Noors a Favorite

More than a hundred varieties of dates are grown in the United States. However, nearly all production comes from less than 10, and more than three-fourths comes from the Deglet Noor variety. This variety has been a favorite since camel caravans first carried them to world markets. Deglet Noors were brought to the United States from the Algerian Sahara by the United States Department of Agriculture in 1900.

Date palms are dioecious—the female trees produce only fruit and the male trees only pollen. Commercial growers propagate the trees by planting off-

shoots which are similar to the buds of other trees. Offshoots produce plants of the same sex and variety as the parent but it takes a long time to increase the supply of palms by this method. A palm produces only 10 to 20 shoots in its lifetime, usually in the first 12 years. Palm trees cannot be budded or grafted like most other fruit trees.

Few Male Trees Needed

Date palms also can be grown from seeds but the fruit from seedling trees usually is inferior to that of the parent. In addition, half the trees will be male and only one or two males are needed to supply pollen for an acre of about 50 fruit-bearing trees. Commercial gardens are always pollinated by hand.

Under favorable conditions, date palms live long and yield heavy crops. The tree comes into bearing when 5 or 6 years old and many live more than a century. The fruit grows in large clusters which hang below the fronds. The dates are picked by hand, one at a time, and several pickings are necessary because the clusters do not ripen uniformly. Harvesting usually begins by October 1 and continues through January. The chief food value in dates is sugar and they are used mainly as a confection.

Before the war, imports of dates ranged from 21,000 to 30,000 tons per year, several times our domestic production. Imports dropped off sharply during the war but since 1945 have been at about prewar levels. Exports from the United States—most of which go to Canada—now amount to 1,000 to 2,000 tons per year.

Since 1941, the annual value of United States date production has ranged from about 1 million to more than 6 million dollars. In the few areas where they are grown, dates are an important cash crop, but contribute relatively little to the Nation's total farm income.

E. O. Schlottzauer
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HOW TO GET MORE FROM

Your Cotton Harvester

PRACTICAL suggestions for farmers who have or are planning to buy cotton harvesting machines have been obtained from an economic study of mechanization of cotton being made in North Carolina by the State Agricultural Experiment Station and the Bureau of Agricultural Economics.

Records kept by operators of both mechanical strippers and mechanical pickers in the Piedmont and Coastal Plains areas provided basic information for the study. The project is supported in part by funds appropriated under the Research and Marketing Act. Although results are available for 1947 only, much of value to the cotton farmer has been learned.

By the fall of 1947, 20 mechanical strippers had been purchased by farmers in North Carolina. However, only 8 were used to harvest 15 or more bales in 1947. The acreage covered by these machines varied from 20 to 200, or an average of about 82 acres yielding about 51 bales. Use of the machines ranged from 30 to 228 hours and averaged 110 hours.

Trash Taken In

The strippers were all two-row, tractor-mounted machines. As the machine moves down the rows, the cotton stalks pass between revolving stripping rolls which remove the bolls. Not only seed cotton but burs, parts of cotton leaves and branches and weeds and grass are taken in. Some of the trash is knocked out through small openings in the bottom of the stripper as the cotton is conveyed back to a trailer. Most of it, however, must be removed at the gin.

Rainy weather which prevented satisfactory stripper operations was one of the chief problems during the 1947 season. Parts of fields where growth of weeds and grass was heavy had to be avoided entirely. If much grass is collected with the cotton, the grade will be lowered considerably since most of it will not be removed by equipment now used at gins.

Improperly spaced rows on some farms also hindered use of strippers. The machines are built to harvest two rows, 40 inches apart, and only minor adjustments are possible.

Tall Cotton Causes Trouble

Another problem arose from the fact that the machines are adapted to cotton less than 40 inches high. Rank stalks with strong lateral branches were frequently pulled into the stripper especially when the soil was damp. Stops to remove stalks or repair damage reduced the harvesting rate. Damage from striking rocks was another difficulty encountered on some farms.

Gins in some areas lacked equipment for handling mechanically stripped cotton and a rather trashy lint resulted. By the end of the 1947 season, however, gin operators in several areas had installed or were planning to install equipment for handling machine stripped cotton.

The cost of using the eight strippers averaged \$5 per acre or \$7 per bale. This includes power and labor but not losses due to the effect of the machine on cotton quality or quantity wasted. Costs varied widely among the farms, chiefly because of the difference in acreage harvested. Since interest, and to a large extent, depreciation are fixed charges, total costs go down as the number of acres covered increases. Other reasons for variations include differences in the area covered per hour and number of men used to operate the machine.

Cost figures need some explanation because of the bad weather during the 1947 season, the newness of the machines and the inexperience of most operators. As farmers become more skilled they will be able to cut power and labor costs. In seasons in which weather is more normal, they will tend to cover more acres with the stripper. Assuming 100 to 200 acres are covered during the season with a yield of 400 pounds of lint per acre, operating costs

are likely to run between \$3 and \$5 per acre, or \$4 to \$6 per bale.

Cotton harvested with strippers graded lower than hand harvested cotton, especially hand picked cotton. One reason is that the machines cannot be used until bolls are mature and until frost causes leaves to drop. As a result, mechanical stripping began 6 to 8 weeks after hand picking. Development of a successful chemical defoliant that would remove leaves earlier would aid strippers greatly. Other factors, particularly the amount of trash gathered by the stripper, also reduced the grade.

Grade Loss Chief Cost

Cotton harvested by stripper averaged several grade points lower than cotton picked by hand at about the same time but only slightly lower than cotton snapped by hand. Loss in grade is the chief cost of mechanical stripping.

The study indicated that in 1947 there was very little difference in the average cost of harvesting with mechanical stripper, including loss in grade as a cost, and by hand picking when cotton picking rates were about \$3 per hundred pounds of seed cotton. Hand snapping at the rate of \$2 per hundred cost nearly \$23 per bale more than mechanical stripping.

Mechanical pickers work on a different principle than strippers. Only six pickers were owned by North Carolina farmers in 1947. Information on operating costs were obtained for four. Use of the machines ranged from 54 to 140 hours, the acreage covered from 35 to 90 and the bales harvested from 27 to 70.

The pickers studied were one-row, tractor-mounted machines. The cotton stalks pass between four revolving drums. Each drum has several hundred rotating spindles with small barbs which remove the seed cotton from the bolls. After the cotton is removed from the spindles, it passes into a large storage basket which holds about one-half bale. When the basket is filled, the cotton is dumped into a truck or trailer by a hydraulic lift. The pickers will harvest cotton up to five feet high.

Wet weather drastically limited use of the picker during 1947. Reliable

conclusions concerning cost, performance and problems faced could not be obtained. However, the experience of the four farmers will be useful.

One of the six pickers was returned to the dealer. The farmer found it unsatisfactory on his farm for two reasons. First, much of his cotton was planted on slopes too steep for the picker, making it difficult to keep properly on rows following the contour; and second, his terraces were too steep and narrow. Experience of others has shown, however, that the picker is suitable for moderately sloping land on which rows curve gradually. Farmers have found that defoliation adds materially to the efficiency of the machine.

Labor and power cost of operating the mechanical pickers on the four farms ranged from \$18 to \$40 per bale. Since the mechanical picker is expensive, it must have considerable use to be economical. Experience indicates the machine has possibilities if 100 or more bales can be picked each season.

Ways to Increase Efficiency

The chief things farmers can do to increase the efficiency of mechanical strippers and pickers:

- If practicable, enlarge cotton fields to lengthen rows.
- Prepare a good seed bed.
- Remove rocks or other obstructions.
- Plant cotton in uniformly spaced rows 40 inches apart.
- Practice shallow cultivation and avoid sweeping rocks toward rows.
- Keep cotton free of grasses and weeds.
- Defoliate cotton before harvesting.
- Keep grade losses at a minimum by having cotton ginned at gins equipped to handle machine-stripped or machine-picked cotton.

Two additional points should be kept in mind for those using the mechanical picker. First, select level fields or those with only moderate slopes. Second, keep rows from curving too sharply.

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Increased Whole Milk Sales

benefit producers, consumers

A COUPLE of decades ago, well over half of the milk produced for sale as milk or cream by American farmers was run through the separator. The cream was sold, and most of the skim went into the hog trough, was fed to calves or poultry, or was wasted.

Last year, more than three-fourths of the milk and cream dairymen sold at wholesale was in the form of whole milk. Only a little more than a fifth was marketed as farm-separated cream.

A few figures tell more clearly what has happened. During 1925-29, farmers delivered the equivalent of 61.9 billion pounds of whole milk to plants and dealers. Of this, 32.5 billion pounds were separated and the cream sold, while 29.4 billion pounds were delivered as whole milk. In 1943, farmers sold 89.3 billion pounds of milk. Sales of cream totaled only 19.7 billion pounds, while whole-milk deliveries were up to 69.6 billion pounds. In other words, sales of milk in whole form more than doubled, while sales in the form of cream dropped more than one-third.

A Significant Development

These figures mark one of the most significant developments in the dairy industry in recent years. To producers the increased outlet for whole milk has meant larger cash receipts from dairy marketings. Consumers shared the benefits, since more of the nutritive elements of milk were available to them.

One of the major reasons for the increased outlet for whole milk for farmers is the sharp rise in consumer demand for dairy products containing both fat and nonfat ingredients. From 1925-29 to 1945-49, consumption of fluid milk and cream per person increased 16 percent, cheese 46 percent, evaporated milk 80 percent, and ice cream 91 percent. On the other hand, consumption of butter per person dropped 39 percent.

The way changes in consumption have affected the pattern in which our milk supply is utilized is brought out in the accompanying table, which shows the quantities of whole milk equivalent to the amounts of the major dairy

products consumed per person in 1925-29 and 1945-49.

In the earlier period, the equivalent of 804 pounds of milk per person was consumed in these dairy products. Fluid milk and cream accounted for 43 percent and butter 44 percent. About 13 percent went into cheese, ice cream, evaporated and condensed milk.

In 1945-49, the dairy products consumed per person were equivalent to 778 pounds of whole milk. Fluid milk and cream accounted for slightly more than half while the share of butter was down to 28 percent. The other four items accounted for 21 percent.

More Nutrients Available

Even though the major dairy products consumed per person in recent years were equivalent to a smaller quantity of whole milk than in the late 1920's, more of the nutrients in the milk were available to consumers. This has resulted from more complete use of the nonfat portion of our milk supply. Much of the skim that was fed to livestock or wasted is now used to make nonfat dry milk solids, chocolate drinks, cottage cheese and other dairy products.

Milk and its products, other than butter, furnished about three-fourths of the dietary calcium consumed per person in recent years. Milk also supplies about one-fourth of the per capita protein and nearly one-half of the riboflavin. For calcium and protein, these proportions are somewhat greater than before the war.

Several factors help account for the change in the pattern of consumption of dairy products. Increasing incomes have resulted in changes in the kinds and quantities of the various dairy products consumers buy and in the price relationships among these products. Changes in consumer tastes and preferences have played a part. In addition, different rates of improvement in the products has had some effect.

Increased demand for dairy products that are mainly whole milk commodities apparently has been accompanied by a decline in the consumer de-

mand for butter. In other words, at a given price and income consumers are inclined to buy less butter than formerly. For many years, total use of table spreads has been declining. Another factor in the decline in demand for butter is that during wartime rationing many consumers purchased margarine for the first time. At the same price relationships, many of these consumers apparently are inclined to continue using margarine. In 1948, butter consumption averaged 10 pounds per person compared with an average of 6 pounds for margarine. In 1935-39, the averages were 16.7 pounds for butter and 2.6 pounds for margarine.

Butterfats Supply Declines

Another important factor in the decline in butter consumption is that at a given price farmers are inclined to produce a smaller quantity of milk to be sold as butterfat. There are two main reasons for this. First, sale of milk for fluid use or for manufacturing whole milk products have offered farmers the possibility of greater returns than the sale of milk as farm separated cream. Farmers are likely to continue to sell a larger proportion of milk in whole form though it may not be as high as recent war and post-war levels. The second reason is the competition from other farm enterprises. In some areas farmers still have the opportunity to sell milk only as farm separated cream. In recent years, many of these farmers have found hogs, beef cattle and cash grain crops more attractive than dairying.

Smaller marketings of butterfat have, of course, reduced supplies of butter available to consumers. This has tended to increase the price of butter and thus reduce the amounts that consumers purchase.

Lose Source of Feed

Many farmers who have shifted from the sale of farm separated cream to the sale of whole milk lost a source of livestock feed. This has been made up by larger purchases of other types of animal protein feed such as tankage or meat scraps. On many farms, this has resulted in increased efficiency in the use of feed. Farmers are inclined to use purchased feed more economically than that produced on the home place.

Increasing exports also have contributed to the changes in milk utilization, even though only 2 to 3 percent of our output of dairy products has been shipped abroad in recent years. From 1921 to 1939, we imported more dairy products in each year than we exported. After 1939, imports dwindled while exports expanded rapidly. Since the beginning of 1945 an average of about 4 billion pounds of dairy products (whole milk basis) a year have been shipped abroad while imports have averaged only about one-fourth billion pounds. Cheese, evaporated milk and dry whole milk have made up the bulk of exports. Exports of nonfat dry milk solids have required skim milk from an average of 2 billion pounds of whole milk each year.

Herbert Kriesel

Bureau of Agricultural Economics

Consumption Per Person of Major Milk Products¹

Item	Average quantity per person		Each product as percentage of total, averages	
	1925-29	1945-49	1925-29	1945-49
	<i>Pounds</i>	<i>Pounds</i>	<i>Percent</i>	<i>Percent</i>
Fluid milk and cream.....	348	402	43	51
Butter.....	360	220	44	28
Cheese.....	46	67	6	9
Ice cream.....	23	44	3	6
Evaporated milk.....	21	38	3	5
Condensed milk.....	5	4	1	1
Dry whole milk.....	1	3	(²)	(²)
Total.....	804	778	100	100

¹ Milk equivalent computed on basis of fat content.

² Less than 0.5.

The place of

The Field Forage Harvester

on the family dairy farm

THE FIELD forage harvester is among the new machines that have proved useful on many United States dairy farms in recent years. If you are among the farmers who are thinking about buying one, a study made in Wisconsin may help you decide whether or not it would be a profitable investment.

In the study, the problem of fitting modern labor saving machinery to the family sized dairy farm in Wisconsin was investigated by the Wisconsin Agricultural Experiment Station and BAE. Detailed information was obtained from more than 100 farms of 110 to 150 acres in size with 60 to 80 acres in crops. These farms usually are operated by one man with some help from his family.

Several Advantages

The field forage harvester was found to have several advantages over conventional methods of harvesting hay, grass silage and corn silage. It saves considerable labor, permits more timely haying operations during unfavorable weather and eases the work, particularly in making grass silage.

On the other hand, the field forage harvester is too expensive for the hay and silage requirements of one family dairy farm. A small harvester with hay and corn cutting attachments and a blower costs about \$1,700 this year. In addition, a mechanical unloading wagon with unloading drive and power unit is needed to reduce as much as possible the labor in handling the chopped forage. This costs about \$900 on today's market, boosting the total initial investment to \$2,600. The investment in conventional machinery—hay loader, corn binder, silage cutter and wagon—runs about \$1,625. Up-keep costs for the field forage harvester also are apt to run higher.

Although the harvester is too costly for one family dairy farm, the study indicates that it is a more economical buy than the conventional machinery if purchased jointly by two or three farmers; or if one farmer buys the ma-

chine and harvests his neighbors' grass silage, hay and corn silage on a custom fee or exchange basis.

Here is the initial investment for the small field forage harvester jointly owned by two or three farmers:

Harvester with hay and corn-cutting attachments and blower:

($\frac{1}{2}$ interest)	\$ 850
($\frac{1}{3}$ interest)	567
Mechanical unloading wagon.....	750
Unloading drive and power unit:	
($\frac{1}{2}$ interest)	75
($\frac{1}{3}$ interest)	50

Total investment..... \$1,367
to \$1,675

The investment for conventional machinery at today's prices:

Hay loader.....	\$ 260
Corn binder.....	425
Silage cutter ($\frac{1}{3}$ interest).....	180
Wagon	400

Total investment..... \$1,265

Farmers who have the time and are handy with tools can build a mechanical unloading wagon for much less than the cost of a new one. This would reduce the investment in a partly owned field forage harvester below that of conventional machinery. Plans for building such a wagon can be obtained from the Agricultural Engineering Department, University of Wisconsin, Madison.

Savings in Labor

The labor saved by the field forage harvester is its chief advantage over the usual machinery. When used to make grass silage or dry chopped hay equivalent to 40 to 60 tons of dry hay, it saves 48 minutes to 1 hour per ton or 32 to 60 hours. In making corn silage, the harvester saves about 6 man-hours per acre and makes the work of filling the silo easier. Since 8 to 10 acres of corn are usually put into the silo on the Wisconsin family dairy farm, this saves 48 to 60 man-hours.

The harvester also can be used to

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pick up straw in grain fields which have been combined. The saving in time over the hay loader is about half an hour per acre. On a dairy farm with 20 to 30 acres of small grain, this amounts to 10 to 15 hours of labor.

Total saving of labor in harvesting hay, making silage and picking up straw on the Wisconsin family dairy farm with 60 to 80 acres in crops would be 90 to 135 man-hours a year.

Another advantage of the field forage harvester is that it makes the work of making grass silage much easier than with conventional equipment. To the extent that the harvester encourages the making of grass silage, it results in important savings in nutrients. For example, harvesting the first cutting of alfalfa or clover as grass silage rather than hay will save 10 percent or more nutrients than if the hay were cured under usual weather conditions. Savings may run as high as 30 to 40 percent in unfavorable weather.

Long Lengths Best

Hay harvested with the field forage harvester is equal to long hay in feeding value. The chopping itself has no beneficial effect on palatableness and digestibility. However, the harvester may permit more timely operations in unfavorable weather. At such times, it would yield a higher quality hay than would conventional methods of harvesting. To get best results with the field forage harvester, the hay should be cut in relatively long lengths after it is properly cured in the field.

The farmer who is thinking about buying a field forage harvester should balance the savings in labor, the greater ease of making grass silage and the possibility of improved quality against the higher investment and upkeep costs. An important consideration is the condition of the equipment he has now and the price he could get if he sold it. Another important thing to think about will be the value of the labor saved. Unless he is able to use it profitably, the added cost would be the cost of more leisure time.

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Wisconsin Agricultural Experiment Station
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Both Gross and Net Down

Farmers sold more and got less for it in the first half of 1949 than in the same period of 1948. With their prices averaging 10 percent lower, cash receipts from marketings brought farmers about 12 billion dollars from January through June, about 6 percent less than last year.

Gross farm income—the total of cash receipts, Government payments, the value of farm products consumed on the farm and the rental value of farm dwellings—also was down about 6 percent from the first half of 1948. Production expenses declined only slightly. Realized net income of farm operators in the first half of this year probably was down 10 percent or more from the same period last year.

Record Spring Pig Crop

There was a lot of activity around the Nation's hog lots this spring. Reports sent in to BAE's State Agricultural Statisticians by thousands of farmers indicate that 59 million pigs were saved this spring 15 percent more than last spring. This is the largest peace-time spring pig crop in our history. Only the spring crops of 1942 and 1943 were larger.

Farmers' reports of their plans indicated that about 5.8 million sows will farrow this fall, 13 percent more than a year earlier. Litters equal in size to the 1938-47 average would mean a fall crop of 37 million.

The total 1949 crop probably means a slaughter of 83-86 million hogs in 1950. This could permit pork consumption per person to run near the 75.6 pounds of 1946 when it was the highest in 40 years except for 1943 and 1944.

Canned and Bottled Oranges

Last season for every dozen oranges that moved to market in their own skins, about seven other oranges came to consumers in tin cans or bottles. Up to 20 years ago, the orange crop in the United States had never exceeded 1½

Prices of Farm Products

[Estimates of average prices received by farmers at local farm markets based on reports to the Bureau of Agricultural Economics. Average of reports covering the United States weighted according to relative importance of district and State]

Commodity	5-year average		June 15, 1948	May 15, 1949	June 15, 1949	Parity price June 15, 1949
	August 1909-July 1914	January 1935-December 1939				
Wheat (bushel)-----dollars--	0.884	0.837	2.11	2.00	1.86	2.17
Rye (bushel)-----do-----	.720	.554	1.91	1.19	1.13	1.76
Rice (bushel)-----do-----	.813	.742	¹ 3.13	2.29	2.20	1.99
Corn (bushel)-----do-----	.642	.691	2.16	1.22	1.21	1.57
Oats (bushel)-----do-----	.399	.340	1.07	.660	.601	.978
Barley (bushel)-----do-----	.619	.533	1.68	.970	.928	1.52
Sorghum grain (100 pounds)-----do-----	1.21	1.17	3.41	2.15	2.04	2.96
Hay (ton)-----do-----	11.87	8.87	17.90	17.70	16.40	29.10
Cotton (pound)-----cents-----	12.4	10.34	35.22	29.97	30.13	30.88
Cottonseed (ton)-----dollars-----	22.55	27.52	² 92.20	² 50.40	² 46.70	55.00
Soybeans (bushel)-----do-----	³ .96	.954	3.90	2.18	2.10	² 3.35
Peanuts (pound)-----cents-----	4.8	3.55	10.4	10.6	10.4	11.8
Flaxseed (bushel)-----dollars-----	1.69	1.69	¹ 5.81	3.68	3.42	4.14
Potatoes (bushel)-----do-----	⁴ .697	.717	¹ 1.86	1.81	1.75	1.80
Sweet potatoes (bushel)-----do-----	.878	.807	2.46	2.73	2.64	2.15
Apples (bushel)-----do-----	.96	.90	¹ 1.90	3.14	3.02	2.35
Oranges on tree (box)-----do-----	⁶ 2.29	1.11	1.00	2.76	2.09	3.69
Hogs (hundredweight)-----do-----	7.27	8.88	22.90	17.00	18.80	17.80
Beef cattle (hundredweight)-----do-----	5.42	6.56	24.40	20.00	20.10	13.20
Veal calves (hundredweight)-----do-----	6.75	7.80	25.20	23.80	23.40	16.50
Lambs (hundredweight)-----do-----	5.88	7.79	24.50	25.30	24.40	14.40
Butterfat (pound)-----cents-----	26.3	29.1	¹ 82.8	60.6	59.3	64.4
Milk, wholesale (100 pounds)-----dollars-----	1.60	1.81	¹ 4.68	3.61	⁷ 3.55	3.92
Chickens (pound)-----cents-----	11.4	14.9	30.5	28.2	26.1	27.9
Eggs (dozen)-----do-----	21.5	21.7	43.4	43.4	44.1	52.7
Wool (pound)-----do-----	18.3	23.8	50.7	50.6	49.4	44.8

¹ Revised.

² Relatively insignificant quantities sold for crushing.

³ Comparable base price, August 1909-July 1914.

⁴ Comparable price computed under the Steagall amendment.

⁵ 1919-28 average of \$1.12 per bushel used in computing parity.

⁶ 1919-28 average for computing parity price.

⁷ Preliminary.

million tons. Last season, processed orange products alone called for 1³/₄ million tons—more than any crop up to 1927-28. Slightly less than 3 million tons were sold fresh.

Plenty Brings Problems

The generosity of nature and the skill of American farmers are again filling our wheat bins to overflowing. The June crop report estimated 1949 production to be second only to the 1947 crop. With the old wheat on hand July 1, supplies for 1949-50 are estimated to be about 1,635 million bushels, the biggest in our history and about 950 million bushels more than we are likely to use in the United States.

With plenty comes storage problems. To help farmers meet these difficulties, the United States Department of Agriculture has announced that:

1. "Distress" wheat loans at 75 percent of the support level will be made

on wheat in temporary storage and on wheat piled on the ground in the open in certain areas.

2. The Government will try to find suitable emergency storage in areas where it is not feasible for farmers to leave wheat in the open or in other temporary storage.

3. Loans at 4 percent interest with 5 years in which to pay will be made available to farmers to build farm storage.

4. CCC may purchase or erect storage facilities for its own grain when other facilities are not available.

Grain Exports Set Record

All previous records for United States grain exports were broken when the 1948-49 shipping season ended June 30. From July 1948 through May 1949, the first 11 months of the season,

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Economic Trends Affecting Agriculture

Year and month	Industrial production (1935-39=100) ¹	Total income of industrial workers (1935-39=100) ²	1910-14=100				Index of prices received by farmers (August 1909-July 1914=100)				
			Average earnings of factory workers per worker	Wholesale prices of all commodities ³	Prices paid by farmers		Farm wage rates ⁴	Livestock and products			
					Com-modities	Com-modities, interest, and taxes		Dairy products	Poul-try and eggs	Meat ani-mals	All live-stock
1910-14 average	58	50	100	100	100	100	100	100	101	101	101
1915-19 average	72	90	152	153	151	150	143	143	154	163	153
1920-24 average	75	122	221	160	161	173	178	150	163	123	142
1925-29 average	98	129	232	143	155	163	179	160	155	143	154
1930-34 average	74	78	179	107	122	135	115	105	94	85	93
1935-39 average	100	100	199	118	125	128	118	119	100	119	117
1940-44 average	192	233	325	139	150	147	212	162	143	171	164
1945 average	203	291	403	154	180	172	350	197	196	210	203
1946 average	170	275	392	177	202	193	378	242	193	256	240
1947 average	187	332	430	222	246	231	463	269	221	340	293
1948 average	192	364	475	241	254	250	432	297	235	371	320
1948											
April	188	341	463	238	254	249	420	295	214	347	304
May	192	350	464	239	265	250	-----	291	211	361	309
June	192	361	472	243	266	251	-----	291	221	390	325
July	186	331	473	246	266	251	431	300	234	417	344
August	191	377	483	247	266	251	-----	305	247	411	344
September	192	380	484	246	265	250	-----	302	253	408	343
October	195	378	488	241	263	249	427	289	260	373	323
November	195	376	489	239	262	248	-----	284	272	351	313
December	192	374	493	237	262	248	-----	283	260	339	305
1949											
January	191	362	489	234	260	248	438	275	240	330	295
February	189	354	486	231	257	245	-----	264	218	315	280
March	184	346	481	231	253	246	-----	254	217	335	287
April	179	339	473	229	258	246	416	240	221	333	282
May	174	317	473	227	257	245	-----	234	217	328	277
June	-----	-----	-----	-----	257	245	-----	230	213	331	277

Year and month	Index of prices received by farmers (August 1909-July 1914=100)								Parity ratio ⁷	
	Crops							All crops and live-stock		
	Food grains	Feed grains and hay	To-bacco	Cotton	Oil-bearing crops	Fruit	Truck crops			All crops
1910-14 average	100	101	102	96	98	99	-----	99	100	100
1915-19 average	193	164	187	168	187	125	-----	168	162	106
1920-24 average	147	126	192	189	149	143	143	160	151	86
1925-29 average	140	119	172	145	129	141	140	143	149	89
1930-34 average	70	76	119	74	72	94	106	86	90	65
1935-39 average	94	95	175	83	106	83	102	97	107	84
1940-44 average	123	119	245	131	159	133	172	143	154	103
1945 average	172	161	366	171	215	220	224	201	202	117
1946 average	201	165	382	228	244	225	204	226	233	121
1947 average	271	246	380	261	335	194	249	261	278	129
1948 average	250	249	387	259	326	157	238	250	287	115
1948										
April	260	291	371	275	351	142	340	276	291	117
May	261	282	370	284	357	141	262	267	289	116
June	249	278	370	284	364	155	213	261	295	118
July	240	256	370	266	366	172	213	253	301	120
August	227	255	386	245	310	183	172	236	293	117
September	223	223	406	250	282	185	150	231	290	116
October	226	192	418	251	270	174	176	227	277	111
November	234	181	412	246	283	157	185	224	271	109
December	236	184	415	239	283	164	209	228	263	108
1949										
January	232	187	412	236	274	180	282	238	268	108
February	221	173	412	235	244	181	285	233	258	105
March	224	178	411	232	242	189	263	232	261	106
April	227	178	410	241	238	207	236	236	260	106
May	227	174	411	242	231	215	213	234	256	104
June	212	168	412	243	219	211	175	225	252	103

¹ Federal Reserve Board represents output of mining and manufacturing; monthly data adjusted for seasonal variation.

² Computed from data furnished by Bureau of Labor Statistics and Interstate Commerce Commission on pay rolls in mining, manufacturing, and transportation; monthly data adjusted for seasonal variation. Revised August 1948.

³ Bureau of Labor Statistics.

⁴ Monthly data adjusted for seasonal variation.

⁵ Revised.

⁶ Preliminary.

⁷ Ratio of prices received to prices paid for commodities, interest and taxes.

⁸ 1924 only.

OUTLOOK HIGHLIGHTS

(Continued from page 14)

grain exports totaled 637,283,000 bushels, the Production and Marketing Administration has announced. This exceeded the previous record of 583,600,000 bushels for the entire 1947-48 season.

Farmers Share Lowest in 6 Years

Farmers received only 49 cents out of each dollar spent for farm food products during April 1949. This was the first time that the farmers' share had dropped below 50 cents since May 1943. The farmers' share of the consumers' food dollar reached a peak of 55 cents several times between November 1945 and January 1948.

The Economic Situation

Last month in this column we carried a brief summary of recent economic trends. Declines were registered for most of the important measures of production, prices, employment and incomes.

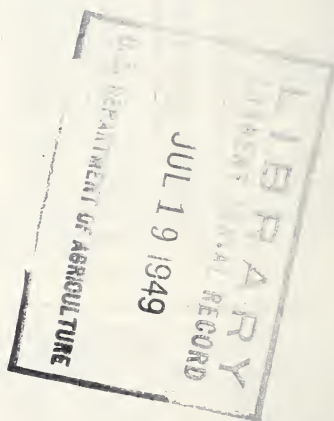
Emphasis on the downside continued the last few weeks. Industrial production continues to slide off. Nonfarm employment also is going down although seasonal increases in agriculture in May boosted total employment above April. Latest figures on personal income show further reductions. The general price level continues to weaken.

The index of prices received by farmers, led by falling prices for truck crops and food grains, was down nearly 2 percent from May to June. This left it about 6 percent lower than in mid-January. Wholesale prices of nonfarm commodities were down 5 percent from January.

Prices paid by farmers including interest and taxes held at the May level. The parity ratio was down to 103, the lowest in 7 years.

Construction and exports continue to be strong points in the economy. With public building increasing sharply, total spending for new construction the first five months of this year was 3 percent higher than a year earlier. Exports continue near last year's level.

PENALTY FOR PRIVATE USE TO AVOID
PAYMENT OF POSTAGE, \$300
(GPO)



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BUREAU OF AGRICULTURAL ECONOMICS
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